

REMARKS

Claims 1-34, 37-68, 71-73, 76-130, 132, 134, 136 and 138 are now present in this application, with claims 35, 36, 69, 70, 74, 75, 131, 133, 135 and 137 being cancelled without prejudice or disclaimer of the subject matter contained therein.

Withdrawn Rejections

Applicants acknowledge in which to thank the Examiner for withdrawal of the rejections under 35 U.S.C. §101, and further for the withdrawal of the rejections over the prior art reference to Winkelman (U.S. Patent No. 5,748,802, the Winkelman '802 Patent).

Consideration Again Requested For Information Disclosure Statement

Applicants wish to thank the Examiner for consideration of many of the Information Disclosure Statements filed in connection with the present application. However, upon review of the application file, Applicants have noticed that the Examiner has not yet indicated consideration of the Information Disclosure Statement of October 5, 2007. Accordingly, Applicants respectfully request the Examiner to consider each of the **documents cited in the Information Disclosure Statement of October 5, 2007**, and respectfully request the Examiner to **initial and return the PTO-1449 form submitted therewith**.

Example Embodiment of the Present Application

The present application, in at least one embodiment, is directed to a color display device that determines a relationship between a plurality of color

components of an input color signal, and then carries out a calculation based on the relationship for each of the plurality of color components using variables varying depending on the respective gradation levels of the plurality of color components. For example, as shown in Figures 2 and 4, an image may be broken into six color areas for example, each involving a combination of various color components. In area 1, for example, the red color component is relatively strongest, followed by the green color component and then the blue color component. In area 2, the red color component is relatively strongest, followed by the blue color component and then the green color component. For each of these areas, calculations may be carried out using variables depending on gradation levels of the plural color components as shown in Figures 2 and 4 for example.

Accordingly, based upon the examples shown in Figures 2 and 4 for example, calculations to perform color compensation involve variables depending respective gradation levels of the various color components in the various areas. For example, in area 1 as shown in Figures 2 and 4, color compensation may be performed in some manner, noting that red is relatively greater than green, which is relatively greater than blue in that particular area. Color conversion can take place based on the various factors as shown in Step S203 of Figure 2 for example, and thereafter color conversion signals may be generated and output as shown in Steps S204 and S205 for example. In such instances, **the gradation level of the color component with the relatively smallest gradation level remains unchanged before and after the calculation.**

Prior Art Rejections

The Examiner has rejected claims 1-3, 33-38, 63-67, 69-72, and 74-76 under 35 U.S.C. §102(b) as being anticipated or, in the alternative, under 35 U.S.C. §103 as being obvious over U.S. Patent No. 6,480,258 to Tsuji (the Tsuji '258 Patent). This rejection is respectfully traversed.

The Tsuji '258 Patent

The Tsuji '258 Patent is directed to a photo printing apparatus, including a data converter 22 for converting inputted image data of a photo film 1 into print data. The data converter 22 includes a basic conversion processor 40 for converting the image data to exclude color information intrinsic to the photo film from the inputted data. As discussed in column 4, a photoelectric converter 3C of a film scanner of a photo printing apparatus includes CCD sensor units, each including 3 CCD sensors. Each CCD sensor includes a color filter disposed on an image pickup plane thereof, each passing only the blue component, the red component or the green component of light beams. Thus, each CCD sensor carries out a photoelectric conversion of only the blue component, the red component or the green component.

Column 5 of the reference discusses that the data converter 22 includes a basic conversion processor 40 for performing a basic conversion process to exclude color information intrinsic to the film 1 from the digital image data from frame images inputted from the data separator 20, and an image quality director 50 for performing an image quality correction process to correct the image quality of the digital image data of the frame images. The basic conversion processor 40 is constructed as a conversion table **storing conversion data for each brand of film.**

Based on information inputted regarding the particular brand of film, the basic conversion processor 40 determines data for use in the conversion process. By using this conversion data, color information intrinsic to the film 1 is excluded from the inputted input image data (see col. 5, lines 24-33 of the Tsuji '258 Patent).

In lines 35-50 of col. 5 of the Tsuji '258 Patent, it states that an image quality corrector 50 includes a correction computing unit 51 for performing correcting computation, and a correction instructor 60 for instructing the correction process. The correction instructor 60 has a storage 61 for storing various correction programs to execute a series of image quality corrections such as contrast correction, sharpness correction and saturation correction, **as well as including a correction factor data for each brand of film to be used in the correction programs**, and a correction circuit for controlling rewriting of the programs and the correction factor data and the correction information storage 61.

Claim Amendments

Applicants have amended claim 1 of the present application, and have somewhat similarly amended the additional independent claims, to clarify that the color display device of the present application carries out a calculation for each of plural components excluding a component with a small gradation level, **using variables varying depending on the relationship among the respective gradation levels of the plural components**. Further, claim 1 has been amended to clarify that **the gradation level of the color component with the relatively smallest gradation level remains unchanged before and after the calculation.**

As one non-limiting example of the relatively smallest gradation level remaining unchanged before and after the calculation, Applicants reference FIG. 2 of the present application (again, noting that claim 1 of the present application is not, in any way, limited to the example embodiment shown in FIG. 2). Reference is made to area 1 [1] wherein the blue component is the component with the relatively smallest gradation level ($R > G > B$). In such a case, $b' = b + b_o + m_o + c_o$, wherein $g_o = b_o = m_o = c_o = 0$ as shown in box S203 corresponding to area [1] of FIG. 2 for example. In such an instance, when plugging the variables which equal zero into the equation, $b' = b$. In other words, the gradation level of the color component with the relatively smallest gradation level (the blue component) **remains unchanged before and after such a calculation**. Accordingly, by making such an amendment to claim 1 of the present application, for example, indicating that “gradation level of the color component with the relatively smallest gradation level remains unchanged before and after the calculation,” Applicants have attempted to clarify what was previously meant by the fact that the calculation was carried out excluding a component with the relatively smallest gradation level.

Distinctions over the Tsuji Patent

As discussed above, the Tsuji '258 Patent discusses storing conversion data **for each brand of film**, and by using the conversion data, color intrinsic to the film is excluded from the input image data (see col. 5, lines 24-33 of the Tsuji '258 Patent for example). As the Tsuji '258 Patent teaches only excluding color information intrinsic to the film 1, it clearly has nothing to do with excluding a color component with relatively smallest gradation level, wherein the level of the color component with the relatively smallest gradation level remains unchanged

before and after the calculation. Thus, Applicants submit that the Tsuji ' 258 patent fails to anticipate and/or render claim 1 obvious. Accordingly, withdrawal of the rejection is respectfully requested.

Accordingly, for at least the aforementioned reasons, Applicants respectfully submit that each of pending independent claims 1, 2, 33, 34, 37, 38, 63, 64, 66, and 72 is allowable over the Tsuji '258 Patent. With regard to the remaining dependent claims, these claims are allowable for at least the reasons previously set forth regarding the corresponding independent claims.

Claim Rejections Under 35 U.S.C. §103

The Examiner rejected claims 68 and 73 under 35 U.S.C. §103 as being unpatentable over the Tsuji '258 Patent in view of the Yamashita et al. Patent (U.S. Patent No. 6,101,271, the Yamashita '271 Patent). This rejection is respectfully traversed.

Applicants respectfully submit that even assuming *arguendo* that the Yamashita '271 Patent could be combined with the Tsuji '258 Patent, which is not admitted, the Yamashita '271 Patent would still fail to make up for at least the previously mentioned deficiency of the Tsuji '258 Patent. Accordingly, for at least the reasons previously set forth, Applicants respectfully submit that each of the claims of the present application are allowable over the alleged combination of the Tsuji '258 Patent and the Yamashita '271 Patent, even assuming *arguendo* that they could be combined.

Claim Rejections Under 35 U.S.C. §103

The Examiner rejected claims 131-138 under 35 U.S.C. §103 as being unpatentable over the Tsuji '258 Patent in view of the U.S. Patent Publication 2004/0105105 (the Smith '105 publication). This rejection is respectfully traversed.

The Examiner cites paragraph [0020] of the Smith '105 Publication, and alleges that it discloses "the gradation level of the color component with the relatively smallest gradation level remains unchanged before and after the calculation." On the contrary, however, the Smith '105 Publication only teaches that K (black color) is not adjusted in the initial function. There is not any disclosure in the Smith '105 Publication that K is a component with a relatively smallest gradation level. While the Smith '105 Publication may arguably discuss using the lowest magnitude value of three colors (CMY), the unadjusted K in the Smith '105 Publication is not relevant to the lowest magnitude value color for creating pastel dirtiness, grayness, etc. Further, noting that K is not adjusted in the "initial function" in the Smith '105 Publication, it is noted that the "initial function" in the Smith '105 Publication corresponds to a calculation equating to an output of a color image signal, and not a calculation as set forth in the claims of the present application.

Applicants respectfully submit that even assuming *arguendo* that the Smith '105 publication could be combined with the Tsuji '258 Patent, which is not admitted, the Smith '105 publication would still fail to make up for at least the previously mentioned deficiency of the Tsuji '258 Patent. Accordingly, for at least the reasons previously set forth, Applicants respectfully submit that each of the claims of the present application are allowable over the alleged combination of the

Tsuji '258 Patent and the Smith '105 publication, even assuming *arguendo* that they could be combined.

As stated above, the independent claims have been amended to clarify that the gradation level of the color component with the relatively smallest gradation level remains unchanged before and after the calculation. As such, color compensation can take place without the relatively smallest gradation level having an effect on color compensation. Applicants respectfully submit that the Tsuji '258 Patent and the Smith '105 publication, taken either singly or in combination, have nothing to do with calculations wherein "the gradation level of the color component with the relatively smallest gradation level remains unchanged before and after the calculation."

Moreover, Applicants note that claim 1 of the present application was amended to clarify that the calculation that takes place is done so "using variables varying depending on the relationship among the respective gradation levels of the plural color components," which further distinguishes the claims from the Tsuji '258 Patent, even assuming *arguendo* that it could be combined with Smith '105 Publication. There is no discussion of any calculation using variables depending upon a relationship among the respective gradation levels of the plural components in either the Tsuji' 258 Patent or the Smith '105 Publication, taken either singularly or in combination. Accordingly, withdrawal of the rejection is respectfully requested.

**Not Obvious to Combine the Teachings of the Tsuji '258 Patent with those of
the Smith '105 Publication**

Moreover, the calculations discussed in the Tsuji '258 Patent and the Smith '105 Publication are completely separate and distinct and have nothing to do with one another. Accordingly, there is no teaching or suggestion as to why one of ordinary skill in the art would combine the teachings of the Tsuji '258 Patent with those of the Smith '105 Publication. The calculations in the Tsuji '258 Patent have to do with **excluding color information intrinsic to the film based upon a particular brand of film**, while the Smith '105 Publication deals with a black color K being non-adjusted in the initial function. As such, there is no reason to combine the teachings of the Smith '105 Publication with the teachings of the Tsuji '258 Publication as alleged by the Examiner. Accordingly, withdrawal of the rejection is respectfully requested.

Additional Claims

Further, with regard to dependent claims 132, 134, 136, and 138, these claims set forth that the relatively greatest component in the gradation level is compensated using both the compensation value of the relatively greatest component and the compensation value of the complementary color of the relatively greatest component, and the second greatest component and the second relatively greatest component. At least such a feature is not taught or suggested by the Tsuji '258 Patent or the Smith '105 publication, taken either singly or in combination. Accordingly, each of claims 132, 134, 136, and 138 is additionally allowable over the prior art of record.

Rejoinder Again Requested

Applicants respectfully submit that each of independent claims 1, 2, 33, 34, 37, 38, 63, 65, 66, and 72 is in condition for allowance. Accordingly, **Applicants respectfully request rejoinder of all claims dependent upon the allowable independent claims**, as each of these claims include all of the limitations of the independent claims, which essentially acts as a linking claim or allowable generic claim.

Allowable Subject Matter

Applicants thank the Examiner for the indication that claims 4, 15, 16, 21-24, 31-32, and 60-62 would be allowable if rewritten in independent form including all the limitations of the previous unamended version of the respective base claim and any intervening claims. As Applicants believe that each of the pending independent claims is allowable for at least the reasons previously set forth, Applicants have not rewritten the objected dependent claims into independent form at this time. **However, Applicants respectively reserve the right to amend each of claims 4, 15, 16, 21-24, 31-32, and 60-62 into independent form based upon the limitations of the previous unamended version of the respective base claim and any intervening claims.**

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of the claims in connection with the present application is earnestly solicited.


In the event this Response does not place the present application in condition for allowance, applicant requests the Examiner to contact the undersigned at (703) 668-8000 to schedule a personal interview.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully Submitted,

HARNESS, DICKEY & PIERCE, PLC

By


Donald J. Daley, Reg. No. 34,313
P.O. Box 8910
Reston, VA 20195
(703) 668-8000

DJD/clc